



CE LVD TEST REPORT

For
T5 LED TUBE FITTING

Model No.: VT-3033, VT-6073, VT-9073, VT-1273, VT-1573, VT-035, VT-065,
VT-125

Applicant : V-TAC EXPORTS LIMITED

ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD
CENTRAL, CENTRAL, HONGKONG.

Manufacturer : V-TAC EXPORTS LIMITED

ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD
CENTRAL, CENTRAL, HONGKONG.

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Report Number : GST1411260742S-R1

Issued Date : January 16, 2019

Date of Report : January 16, 2019

Note:

1. The test data and result is based on the tested sample only.
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<p align="center">LVD Report</p> <p align="center">EN60598-1&EN60598-2-1</p> <p align="center">Luminaires—Part 1 :General requirements and tests</p> <p align="center">Part 2-1:Particular requirments</p> <p align="center">Section One – Fixed general purpose luminaires</p>	
Report reference No.:	GST1411260742S-R1
Testing laboratory	Global-Standard Testing Service Co., Ltd.
Location.....:	Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An district, Shenzhen, Guangdong, China.
Applicant.....:	V-TAC EXPORTS LIMITED
Address:.....:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG.
Manufacturer :.....:	V-TAC EXPORTS LIMITED
Address:.....:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG.
Standards.....:	EN 60598-1:2015+A1:2018 EN 60598-2-1:1989 EN 62031:2008+A1:2013+A2:2015 EN 61347-1:2015 EN 61347-2-13:2014+A1:2017 EN 62471:2008 EN 62493:2015
Procedure deviation.....:	N/A
Non-standard test method.....:	N/A
Type of test equipment	T5 LED TUBE FITTING
Trade mark.....:	
Model/Type designation.....:	VT-3033, VT-6073, VT-9073, VT-1273, VT-1573, VT-035, VT-065, VT-125
Rating.....:	Input : AC 220-240V, 56-60Hz, 7W Max.
TRF originator.....:	Global-Standard Testing Service Co., Ltd.
Copyright blank test report:	Global-Standard Testing Service Co., Ltd.
Test item particulars:	--
Operating Condition	Continuous
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A.
Class of equipment	Class II equipment and fixed equipment
Protection against ingress of water	IP20

Possible test case verdicts :

test case does not apply to the test object	N(/A.)
test object does meet the requirement	P(ass)
test object does not meet the requirement	F(ail)

Name and address of the testing laboratory :

Global-Standard Testing Service Co., Ltd.
Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An
District, Shenzhen, Guangdong, China.

Tested by : John Huang
Signature

November 26, 2014
Date

John Huang / Test Engineer
Name/title

Reviewed by : Gloria Wang
Signature

January 16, 2019
Date

Gloria Wang / Supervisor
Name/title

Approved by : Nico Xie
Signature

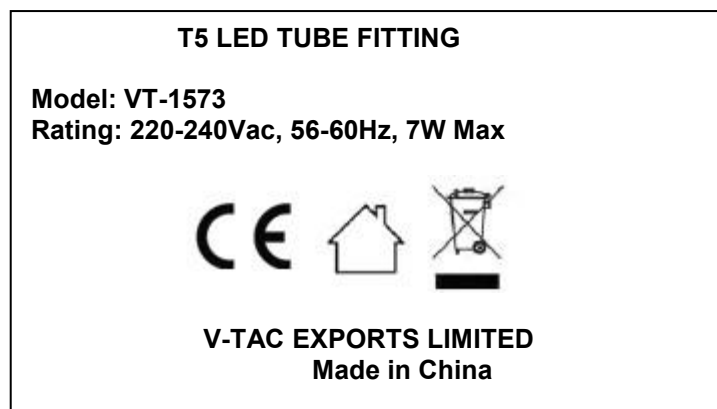
January 16, 2019
Date

Nico Xie / Manager
Name/title



<p>General remarks:</p> <p>Clause number between brackets refer to clauses in IEC 60598-1</p> <p>"(see remark #)" refers to a remark appended to the report.</p> <p>"(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>Unless otherwise specified, test are made under normal conditions at an ambient temperature within the range of 15°C to 35°C, RH45% to 75% and an air pressure of 860mbar of 1060mbar</p>	<p>Attachment with:</p> <p>1) Photo documentation</p>
<p>Brief description of the test sample:</p> <p>1.This report covers the T5 LED TUBE FITTING with models VT-3033, VT-6073, VT-9073, VT-1273, VT-1573, VT-035, VT-065, VT-125 for indoor use.</p> <p>2.All models have the same construction except for LED numbers, wattage and parameter of output components for LED drive.</p> <p>3.The model VT-1573 was selected as representative sample to perform all testing due to max. wattage.</p> <p>4. The European standard EN 62471 and EN 62493 has been considered.with positive result.</p> <p>5. The European standard of LED modules for general lighting was evaluated with reference to EN 62031</p> <p>6. T5 LED TUBE FITTING were supplied by SELV isolated electrical control gear; Live parts of control gear and lamp enclosure were separated by double or reinforce insulation, which was evaluated under EN 61347-2-13 & EN61347-1.</p> <p>7. This report is based on report GST1411260742S dated November 28, 2014.</p>	

Label



Note:

1. Due to similarity of the labels, only above label was listed.
2. All labels have the same format except for model name and wattage.
3. The height of WEEE directive mark is at least 7mm ..

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict

1.1 (0)	SCOPE		P
1.1 (0.1)	More sections applicable..... :	Yes	—
20.2 (0.3)	More sections applicable..... :		—

1.4 (2)	CLASSIFICATION		P
1.4 (2.2)	Type of protection..... :	Class II	—
1.4 (2.3)	Degree of protection..... :	IP20	—
1.4 (2.4)	Portable or handheld luminaire	No	—
	Fixed luminaire suitable for normally flammable surfaces..... :	Yes	—
	Fixed luminaire suitable for non-combustible materials only	No	—
1.4 (2.5)	Luminaire for normal use	Yes	—
	Luminaire for rough service	No	—

1.5 (3)	MARKING		P
1.5 (3.2)	Mandatory markings		P
	Position of the marking		P
	Format of symbols/text		P
1.5 (3.3)	Additional information		P
	Language of instructions	English	P
1.5 (3.3.1)	Combination luminaires		N/A
1.5 (3.3.2)	Nominal frequency in Hz	56-60Hz	P
1.5 (3.3.3)	Operating temperature		N/A
1.5 (3.3.4)	Symbol or warning notice		N/A
1.5 (3.3.5)	Wiring diagram		N/A
1.5 (3.3.6)	Special conditions		N/A
1.5 (3.3.7)	Metal halid lamp luminaire – warning		N/A
1.5 (3.3.8)	Limitation for semi-luminaires		N/A
1.5 (3.3.9)	Power factor and supply current		N/A
1.5 (3.3.10)	Suitability for use indoors		P
1.5 (3.3.11)	Luminaires with remote control		N/A
1.5 (3.3.12)	Clip-mounted luminaire – warning		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.5 (3.3.13)	Specifications of protective shields		P
1.5 (3.3.14)	Symbol for nature of supply	~	P
1.5 (3.3.15)	Rated current of socket outlet		N/A
1.5 (3.3.16)	Rough service luminaire		N/A
1.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	type Y	P
1.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
1.5 (3.4)	Test with water	Legible	P
	Test with hexane	Legible	P
	Legible after test	Yes	P
	Label attached	Yes	P

1.6 (4)	Construction		P
1.6 (4.2)	Components replaceable without difficulty		P
1.6 (4.3)	Wireways smooth and free from sharp edges		P
1.6 (4.4)	Lampholders		N/A
1.6 (4.4.1)	Integral lampholder		N/A
1.6 (4.4.2)	Wiring connection		P
1.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
1.6 (4.4.4)	Positioning		P
	- pressure test (N)		N/A
	- bending test (Nm)	2.0Nm	P
1.6 (4.4.5)	Peak pulse voltage		N/A
1.6 (4.4.6)	Centre contact		N/A
1.6 (4.4.7)	Rough service luminaires		N/A
1.6 (4.4.8)	Lamp connectors		N/A
1.6 (4.5)	Starter holders		N/A
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
1.6 (4.6)	Terminal blocks		N/A
	Tails		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Unsecured blocks		N/A
1.6 (4.7)	Terminals and supply connections		P
1.6 (4.7.1)	Contact to metal parts		P
1.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		P
1.6 (4.7.3)	Terminals for supply conductors		P
1.6 (4.7.3.1)	Welded connections:		N/A
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- Type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
1.6 (4.7.4)	Terminals other than supply connection		N/A
1.6 (4.7.5)	Heat-resistant wiring/sleeves		N/A
1.6 (4.7.6)	Multi-pole plug		N/A
1.6 (4.8)	Switches:		N/A
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
1.6 (4.9)	Insulating lining and sleeves		P
1.6 (4.9.1)	Retainment		N/A
	Method of fixing..... :		N/A
1.6 (4.9.2)	Insulated linings and sleeves		P
	a) & c) Insulation resistance and electric strength		P
	b) Ageing test. Temperature (°C) :		P
1.6 (4.10)	Insulation of Class I luminaires		P
1.6 (4.10.1)	No contact, mounting surface - accessible metal parts - wiring of basic insulation		P
	Safe installation fixed luminaires		P
	Capacitors		N/A
	Interference suppression capacitors according to IEC 60384-14	See table 0.5	N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.6 (4.10.2)	Assembly gaps:		N/A
	- not coincidental		N/A
	- no straight access with test probe		N/A
1.6 (4.10.3)	Retainment of insulation:		N/A
	- fixed		N/A
	- unable to be replaced; luminaire inoperative		N/A
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
1.6 (4.11)	Electrical connections		P
1.6 (4.11.1)	Contact pressure		P
1.6 (4.11.2)	Screws:		P
	- self-tapping screws		P
	- thread-cutting screws		N/A
	- at least two self-tapping screws		N/A
1.6 (4.11.3)	Screw locking:		N/A
	- spring washer		N/A
	- rivets		N/A
1.6 (4.11.4)	Material of current-carrying parts		P
1.6 (4.11.5)	No contact to wood	No wood	N/A
1.6 (4.11.6)	Electro-mechanical contact systems		N/A
1.6 (4.12)	Mechanical connections and glands		P
1.6 (4.12.1)	Screws not made of soft metal		N/A
	Screws of insulating material		N/A
	Torque test: torque (Nm); part..... :	0.80Nm; Fixed cover	N/A
	Torque test: torque (Nm); part..... :		N/A
	Torque test: torque (Nm); part..... :	0.80Nm; Fixed lamp cap and plastic enclosure	N/A
1.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.6 (4.12.4)	Locked connections:		N/A
	- fixed arms; torque (Nm).....:		N/A
	- lampholder; torque (Nm).....:		N/A
	- push-button switches; torque 0,8 Nm.....:		N/A
1.6 (4.12.5)	Screwed glands; force (N).....:		N/A
1.6 (4.13)	Mechanical strength		P
1.6 (4.13.1)	Impact tests:		P
	- fragile parts; energy (Nm).....:		N/A
	- other parts; energy (Nm).....:	Other parts: 0.35Nm	P
	1) live parts		P
	2) linings		N/A
	3) protection		P
	4) covers		P
1.6 (4.13.3)	Straight test finger	30N	P
1.6 (4.13.4)	Rough service luminaires		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A
	d) for temporary installations and suitable for mounting on a stand		N/A
1.6 (4.13.6)	Tumbling barrel		N/A
1.6 (4.14)	Suspensions and adjusting devices		P
1.6 (4.14.1)	Mechanical load:		P
	A) four times the weight	0.130kg x 4 = 0.520kg	P
	B) torque 2,5 Nm	1 min	P
	C) bracket arm; bending moment (Nm).....:		N/A
	D) load track- mounted luminaires		N/A
	E) clip-mounted luminaires, glass-shelve. Thickness (mm)		N/A
	metal rod. Diameter (mm)		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.6 (4.14.2)	Load to flexible cables		N/A
	Mass (kg).....:		N/A
	Stress in conductors (N/mm ²).....:		N/A
	Semi-luminaires – mass (kg)		N/A
	Semi-luminaires – bending moment (Nm).....:		N/A
1.6 (4.14.3)	Adjusting devices:		N/A
	- flexing test; number of cycles.....:		N/A
	- strands broken		N/A
	- electric strength test afterwards		N/A
1.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
1.6 (4.14.5)	Guide pulleys		N/A
1.6 (4.14.6)	Strain on socket-outlets		N/A
1.6 (4.15)	Flammable materials:		P
	- glow-wire test 650 °C	Plastic enclosure	P
	- spacing ≥ 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material		N/A
	- thermal protection		N/A
	- electronic circuits exempted		N/A
1.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N/A
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
1.6 (4.16)	Luminaires marked with F-symbol		N/A
	No lamp control gear		N/A
1.6 (4.16.1)	Lamp control gear spacing:		N/A
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.6 (4.16.2)	Thermal protection:		N/A
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
1.6 (4.16.3)	"F" curve measured		N/A
1.6 (4.17)	Drain holes		N/A
	Clearance at least 5 mm		N/A
1.6 (4.18)	Resistance to corrosion:		N/A
1.6 (4.18.1)	- rust-resistance		N/A
1.6 (4.18.2)	- season cracking in copper		N/A
1.6 (4.18.3)	- corrosion of aluminium		N/A
1.6 (4.19)	Ignitors compatible with ballast		N/A
1.6 (4.20)	Rough service vibration..... :		N/A
1.6 (4.21)	Protective shield:		N/A
1.6 (4.21.1)	Shield fitted		N/A
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
1.6 (4.21.3)	No direct path		N/A
1.6 (4.21.4)	Impact test on shield		P
	Glow-wire test on lamp compartment		P
1.6 (4.22)	Attachments to lamps		N/A
1.6 (4.23)	Semi-luminaires comply class II		N/A
1.6 (4.24)	UV radiation, metal halide lamps		N/A
1.6 (4.25)	No sharp point or edges		P
1.6 (4.26)	Short-circuit protection:		P
1.6 (4.26.1)	Uninsulated accessible SELV parts		N/A
1.6 (4.26.2)	Short-circuit test		P

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.6 (4.26.3)	Test chain according to IEC 61032		N/A

1.7 (11)	CREEPAGE DISTANCES AND CLEARANCES		P
	Working voltage (V)..... :		—
	Voltage form	Sinusoidal [$\sqrt{}$] Non-sinusoidal []	—
	PTI	< 600 [$\sqrt{}$] > 600 []	—
	Rated pulse voltage (kV)		—
	(1) Current-carrying parts of different polarity: cr (mm); cl (mm)..... :	cr>7.37mm cl>7.37mm	P
	(2) Current-carrying parts and accessible parts: cr (mm); cl (mm)..... :	cr>10.41mm cl>3.04mm	P
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm)..... :		N/A
	(4) Outer surface of cable where it is clamped and metal parts: cr (mm); cl (mm)..... :		N/A
	(5) Current-carrying parts of switches and metal parts, after removal of insulation: cr (mm); cl (mm)..... :		N/A
	(6) Current-carrying parts and supporting surface: cr (mm); cl (mm)..... :	cr>4.24mm cl>3.00mm	P

1.8 (7)	PROVISION FOR EARTHING		N/A
1.8 (7.2.1 + 7.2.3)	Accessible metal parts		N/A
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω		N/A
	Two self-tapping screws used		N/A
	Thread-forming screws		N/A
	Connector earthing first		P
1.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N/A
1.8 (7.2.4)	Locking of clamping means		N/A
	Compliance with 4.7.3		N/A
1.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
1.8 (7.2.6)	Earth terminal adjacent to mains terminals		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N/A
1.8 (7.2.8)	Material of earth terminal		N/A
	Contact surface bare metal		N/A
1.8 (7.2.10)	Class II luminaire for looping-in		N/A
1.8 (7.2.11)	Earthing core coloured green-yellow		N/A
	Length of earth conductor		N/A
1.9 (14)	SCREW TERMINALS		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 3)	N/A
1.9 (15)	SCREWLESS TERMINALS		N/A
	Separately approved; component list	(see Annex 1)	N/A
	Part of the luminaire	(see Annex 4)	N/A
1.10 (5)	EXTERNAL AND INTERNAL WIRING		P
1.10 (5.2)	Supply connection and external wiring		P
1.10(5.2.1)	Means of connection..... :		P
1.10(5.2.2)	Type of cable..... :		N/A
	Nominal cross-sectional area (mm ²)..... :	2 x 0.75mm ²	P
1.10(5.2.3)	Type of attachment, X, Y or Z	Type Y	P
1.10(5.2.5)	Type Z not connected to screws		N/A
1.10(5.2.6)	Cable entries:		N/A
	- suitable for introduction		N/A
	- adequate degree of protection		N/A
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
1.10(5.2.8)	Insulating bushings:		N/A
	- suitably fixed		N/A
	- material in bushings		N/A
	- tubes or guards made of insulating material		N/A
1.10(5.2.9)	Locking of screwed bushings		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.10 (5.2.10)	Cord anchorage:		N/A
	- covering protected from abrasion		N/A
	- clear how to be effective		N/A
	- no mechanical or thermal stress		N/A
	- no tying of cables into knots etc.		N/A
	- insulating material or lining		N/A
1.10 (5.2.10.1)	Cord anchorage for type X attachment:		N/A
	a) at least one part fixed		N/A
	b) types of cable		N/A
	c) no damaging of the cable		N/A
	d) whole cable can be mounted		N/A
	e) no touching of clamping screws		N/A
	f) metal screw not directly on cable		N/A
	g) replacement without special tool		N/A
	Glands not used as anchorage		N/A
	Labyrinth type anchorages		N/A
1.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment		N/A
1.10 (5.2.10.3)	Tests:		N/A
	- impossible to push cable; unsafe		N/A
	- pull test: 25 times; pull (N).....:		N/A
	- torque test: torque (Nm).....:		N/A
	- displacement ≤ 2 mm		N/A
	- no movement of conductors		N/A
	- no damage of cable or cord		N/A
1.10 (5.2.11)	External wiring passing into luminaire		P
1.10 (5.2.12)	Looping-in terminals		N/A
1.10 (5.2.13)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A
1.10 (5.2.15)	Colour code low voltage		N/A
1.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Appliance couplers of class II type		N/A
1.10 (5.3)	Internal wiring		P
1.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		P
	- not delivered/ mounting instruction		P
	- factory assembled		N/A
	- socket outlet loaded (A).....:		N/A
	- temperatures.....:		P
	Green- yellow for earth only		N/A
1.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		P
	Cross-sectional area (mm ²).....:	0.75 mm ²	P
	Insulation thickness	0.6 mm ²	P
	Extra insulation added where necessary		N/A
1.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Adequate cross-sectional area and insulation thickness		P
1.10 (5.3.1.3)	Double or reinforced insulation for class II		P
1.10 (5.3.1.4)	Conductors without insulation		N/A
1.10 (5.3.1.5)	SELV current-carrying parts		N/A
1.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
1.10 (5.3.2)	Sharp edges etc.		N/A
	No moving parts of switches etc.		N/A
	Joints, raising/lowering devices		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
1.10 (5.3.3)	Openings		N/A
	Bushings not removable		N/A
	Bushings in sharp openings		N/A
	Cables with protective sheath		N/A
1.10 (5.3.4)	Joints and junctions effectively insulated		P
1.10 (5.3.5)	Strain on internal wiring		N/A
1.10 (5.3.6)	Wire carriers		N/A
1.10 (5.3.7)	Wire ends not tinned		N/A
	Wire ends tinned: no cold flow		N/A

1.11 (8)	PROTECTION AGAINST ELECTRIC SHOCK		P
1.11 (8.2.1)	Live parts not accessible		P
	Protection in any position		P
	Double-ended tungsten filament lamp		N/A
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N/A
1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
1.11 (8.2.3)	Class II luminaire:		P
	- basic insulated metal parts not accessible during starter or lamp replacement		P
	- basic insulation not accessible other than during starter or lamp replacement		P
	- glass protective shields not used as supplementary insulation		N/A
	Class I luminaire with BC lampholder		N/A
1.11 (8.2.4)	Portable luminaire:		N/A
	- protection independent of supporting surface		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict

	- terminal block completely covered		N/A
1.11 (8.2.6)	Covers reliably secured		P
1.11 (8.2.7)	Discharging of capacitors $\geq 0,5 \mu\text{F}$		N/A
	Portable plug connected luminaire with capacitor		N/A
	Other plug connected luminaire with capacitor		N/A
	Discharge device on or within capacitor		N/A
	Discharge device mounted separately		N/A

1.12 (12)	ENDURANCE TEST AND THERMAL TEST		P
1.12 (12.3)	Endurance test:		P
	- mounting- position.....:		—
	- test temperature (°C).....:	35°C	—
	- total duration (h).....:	240h	—
	- supply voltage: Un factor; calculated voltage (V)	1.1×240	—
	- lamp used.....:	LED	—
1.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
1.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.12 (12.5)	Thermal test (abnormal operation)		N/A
1.12 (12.6)	Thermal test (failed lamp control gear condition):		N/A
1.12 (12.6.1)	- case of abnormal conditions.....:		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C) at 1,1 Un. :		—
	- measured mounting surface temperature (°C) at 1,1 Un.....:		N/A
	- calculated mounting surface temperature (°C). :		N/A
	- track- mounted luminaires		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.12 (12.6.2)	Temperature sensing control		N/A
	- case of abnormal conditions..... :		—
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C) :		N/A
	- track-mounted luminaires		N/A
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N/A
	- case of abnormal conditions..... :		—
1.12 (12.7.1)	- measured winding temperature (°C) at 1,1 Un. :		—
	- measured temperature of fixing point/ exposed part (°C) at 1,1 Un..... :		N/A
	- calculated temperature of fixing point/ exposed part (°C)..... :		N/A
1.12 (12.7.2)	Temperature sensing control		N/A
	- thermal link		N/A
	- manual reset cut-out		N/A
	- auto reset cut-out		N/A
	- measured temperature of fixing point/ exposed part (°C) :		N/A
1.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
1.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP..... :	IP20	—
	- mounting position during test..... :		—
	- fixing screws tightened; torque (Nm)..... :		—
	- tests according to clauses..... :		—
	- electric strength test afterwards		N/A
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		N/A
	c) no trace of water on current-carrying parts or where it could become a hazard		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
	d) i) For luminaires without drain holes – no water entry		N/A
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)	IP20	P
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
1.13 (9.3)	Humidity test 48 h	25°C, 93%RH, 48h	P

1.14 (10)	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
1.14 (10.2.1)	Insulation resistance test		P
	Insulation resistance (MΩ):		—
	SELV:		N/A
	- between current-carrying parts of different polarity..... :		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire..... :		N/A
	Other than SELV:		P
	- between live parts of different polarity..... :	100MΩ	P
	- between live parts and mounting surface..... :	100MΩ	P
	- between live parts and metal parts..... :	100MΩ	P
	- between live parts of different polarity through action of a switch..... :		N/A
1.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test	No ignitor	N/A
	Luminaires with manual ignitors	No manual ignitor	N/A
	Test voltage (V):		P
	SELV:		N/A
	- between current-carrying parts of different polarity..... :		N/A
	- between current-carrying parts and mounting surface..... :		N/A

EN 60598-1 & EN 60598-2-1			
Clause	Requirement – Test	Result - Remark	Verdict
	- between current-carrying parts and metal parts of the luminaire.....:		N/A
	Other than SELV:		P
	- between live parts of different polarity.....:	1500V	P
	- between live parts and mounting surface.....:	1500V	P
	- between live parts and metal parts.....:		N/A
	- between live parts of different polarity through action of a switch.....:		N/A
1.14 (10.3.1)	Leakage current (mA).....:	<0.005mA	P
1.15 (13)	RESISTANCE TO HEAT, FIRE AND TRACKING		P
1.15 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C).....:	Enclosure 75°C 0.94mm	P
	- part tested; temperature (°C).....:	PCB 125°C 0.58mm	P
1.15 (13.3.1)	Needle flame test (10 s):		N/A
	- part tested.....:		N/A
	- part tested.....:		N/A
1.15 (13.3.2)	Glow wire test (650°C)		P
	- part tested.....:	Enclosure	P
	- part tested.....:	PCB	P
1.15 (13.4.1)	Tracking test: part tested.....:		N/A

ANNEX 1: Components list					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Certification No.
Plastic enclosure	Various	Various	VW-1, 90°C	--	UL
lamp cap	Sabic Innovative Plastics China Co Ltd	940(f1)	94V-0 120°C	UL94	UL
Lampshade	Sabic Innovative Plastics China Co Ltd	940(f1)	94V-0 120°C	UL94	UL
LED driver	V-TAC EXPORTS LIMITED	SO-1	Input:AC220- 240V,56- 60Hz,7W, Output: DC10- 25V,600mA	--	Test with appliance
Lead wire	Various	1332	18AWG ,200°C	--	UL
PCB	Shikibo electronics Co.,Ltd	E4	Min. thickness: 1.0mm, VW-0, 130°C	UL 796	UL
Connector	Various	Various	VW-1, 90°C		Test with appliance
Inlet	Various	Various	VW-1, 90°C		Test with appliance

TABLE: tests of fault conditions			P
Part	Simulated fault	Result	Hazard
RV1	240V ,Short circuit	Fuse open	NO
C1	240V ,Short circuit	Unit shut off	NO
C3	240V ,Short circuit	Unit shut off, recover	NO
D4	240V ,Short circuit	Fuse open	NO

	ANNEX 2: temperature measurements, thermal tests of Section 12				P		
	Type reference..... :	VT-1573			—		
	Lamp used.....:	LED			—		
	Ballast used.....:	—			—		
	Mounting position of luminaire..... :	As in normal use			—		
	Supply wattage (W)..... :	7W			—		
	Supply current (A)..... :				—		
	Table: measured temperatures corrected for Ta = 25°C:				N/A		
	- abnormal operating mode..... :	—			—		
	- test 1: rated voltage.....:	—			—		
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	—			—		
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:	—			—		
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage..... :	—			—		
temperature (C) of part		clause 12.4 - normal			clause 12.5 - abnormal		
		test 1	test 2	test 3	limits	test 4	limit
Lamp cap			42.7		120		
Lead wire			48.9		200		
Plasstic enclosure			39.2		60		
Connector			40.1		90		
Inlet			42.5		90		
LED			58.9		For ref.		
LED PCB			51.9		130		
L1			61.8		105		
CX1			65.7		105		
C1			70.2		105		
T1 core			92.1		130		
T1 near PCB			95.5		130		
Diffuser, inside			41.6		90		



	ANNEX 3: SCREW TERMINALS (PART OF THE LUMINAIRE)		N/A
(14)	SCREW TERMINALS		N/A
(14.2)	Type of terminal:		—
	Rated current (A) :		—
(14.3.2.1)	One or more conductors		N/A
(14.3.2.2)	Special preparation		N/A
(14.3.2.3)	Terminal size		N/A
	Cross-sectional area (mm ²) :		N/A
(14.3.3)	Conductor space (mm) :		N/A
(14.4)	Mechanical tests		N/A
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) :		N/A
	External wiring		N/A
	No soft metal		N/A
(14.4.5)	Corrosion		N/A
(14.4.6)	Nominal diameter of thread (mm) :		N/A
	Torque (Nm) :		N/A
(14.4.7)	Between metal surfaces		N/A
	Lug terminal		N/A
	Mantle terminal		N/A
	Pull test; pull (N) :		N/A
(14.4.8)	Without undue damage		N/A


	ANNEX 4: SCREWLESS TERMINALS (PART OF THE LUMINAIRE)		N/A
(15)	SCREWLESS TERMINALS		N/A
(15.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A

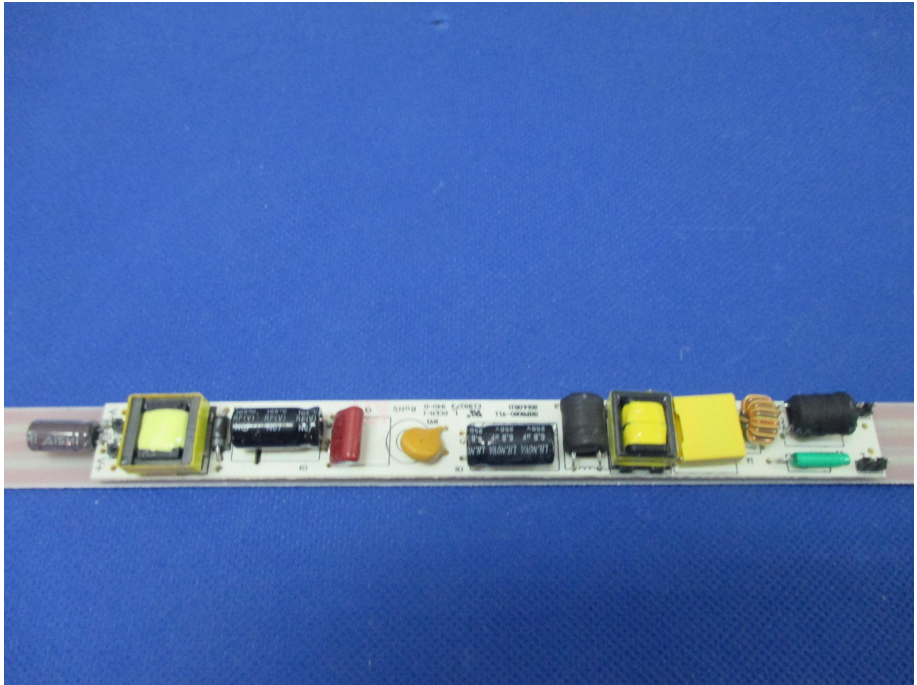
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)		N/A
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.2)	Permanent connections: pull-off test (20 N)		N/A
(15.6)	Electrical tests		N/A
	Voltage drop (mV) after 1 h (4 samples).....:		N/A
	Voltage drop of two inseparable joints		N/A
	Number of cycles.....:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N/A
(15.7)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.8.1)	Pull test spring-type terminals (4 samples); pull (N)		N/A
	Pull test pin or tab terminals (4 samples); pull (N)		N/A
(15.9)	Contact resistance test		N/A
	Voltage drop (mV) after 1 h		N/A


Appendix 1

Photo documentation

<p>Photo 1</p> <p>View:</p> <p><input checked="" type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
<p>Photo 2</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input checked="" type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	

<p>Photo 3</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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<p>Photo 4</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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<p>Photo 5</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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<p>Photo 6</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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